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Εργασια (1)

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# Ecology

Ecology addresses the full scale of life, from small bacteria to processes that span the whole planet. Ecologists study many various and complicated relations among species, such as predation and pollination. The diversity of life is organized into different habitats, from terrestrial (middle) to aquatic ecosystems.

Ecology (from Greek: οἶκος, "house", or "environment"; -λογία, "study of")[A] is the branch of biology[1] which studies the interactions among organisms and their environment. Objects of study include interactions of organisms with each other and with abiotic components of their environment. Topics of interest include the biodiversity, distribution, biomass, and populations of organisms, as well as cooperation and competition within and between species. Ecosystems are dynamically interacting systems of organisms, the communities they make up, and the non-living components of their environment. Ecosystem processes, such as primary production, pedogenesis, nutrient cycling, and niche construction, regulate the flux of energy and matter through an environment. These processes are sustained by organisms with specific life history traits. Biodiversity means the varieties of species, genes, and ecosystems, enhances certain ecosystem services.

Ecology is not synonymous with environmentalism, natural history, or environmental science. It overlaps with the closely related sciences of evolutionary biology, genetics, and ethology. An important focus for ecologists is to improve the understanding of how biodiversity affects ecological function. Ecologists seek to explain:

Life processes, interactions, and adaptations

The movement of materials and energy through living communities

The successional development of ecosystems

The abundance and distribution of organisms and biodiversity in the context of the environment.

Ecology has practical applications in conservation biology, wetland management, natural resource management (agroecology, agriculture, forestry, agroforestry, fisheries), city planning (urban ecology), community health, economics, basic and applied science, and human social interaction (human ecology). For example, the Circles of Sustainability approach treats ecology as more than the environment 'out there'. It is not treated as separate from humans. Organisms (including humans) and resources compose ecosystems which, in turn, maintain biophysical feedback mechanisms that moderate processes acting on living (biotic) and non-living (abiotic) components of the planet. Ecosystems sustain life-supporting functions and produce natural capital like biomass production (food, fuel, fiber, and medicine), the regulation of climate, global biogeochemical cycles, water filtration, soil formation, erosion control, flood protection, and many other natural features of scientific, historical, economic, or intrinsic value.

The word "ecology" ("Ökologie") was coined in 1866 by the German scientist Ernst Haeckel. Ecological thought is derivative of established currents in philosophy, particularly from ethics and politics.[2] Ancient Greek philosophers such as Hippocrates and Aristotle laid the foundations of ecology in their studies on natural history. Modern ecology became a much more rigorous science in the late 19th century. Evolutionary concepts relating to adaptation and natural selection became the cornerstones of modern ecological theory.

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## Forest

A forest is a large area dominated by trees.[1] Hundreds of more precise definitions of forest are used throughout the world, incorporating factors such as tree density, tree height, land use, legal standing and ecological function.[2][3][4] According to the widely used[5][6] Food and Agriculture Organization definition, forests covered 4 billion hectares (9.9×109 acres) (15 million square miles) or approximately 30 percent of the world's land area in 2006.[4]

Forests are the dominant terrestrial ecosystem of Earth, and are distributed across the globe.[7] Forests account for 75% of the gross primary productivity of the Earth's biosphere, and contain 80% of the Earth's plant biomass.[7]

Forests at different latitudes and elevations form distinctly different ecozones: boreal forests near the poles, tropical forests near the equator and temperate forests at mid-latitudes. Higher elevation areas tend to support forests similar to those at higher latitudes, and amount of precipitation also affects forest composition.

Human society and forests influence each other in both positive and negative ways.[8] Forests provide ecosystem services to humans and serve as tourist attractions. Forests can also affect people's health. Human activities, including harvesting forest resources, can negatively affect forest ecosystems.

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## Environment

Environment is everything that is around us. It can be living or nonliving things. It includes physical, chemical and other natural forces. Living things live in their environment. They constantly interact with it and adapt themselves to conditions in their environment. In the environment there are different interactions between animals, plants, soil, water, and other living and non-living things.

Since everything is part of the environment of something else, the word 'environment' is used to talk about many things. People in different fields of knowledge use the word environment differently. Electromagnetic environment is radio waves and other electromagnetic radiation and magnetic fields. The galactic environment refers to conditions between the stars.[1]

In psychology and medicine a person's environment is the people, physical things, places, and epornvents that the person lives with. The environment affects the growth and development of the person. It affects the person's behavior, body, mind and heart.

Discussions on nature versus nurture are sometimes framed as heredity vs environment.n negatively affect forest ecosystems.

**Class Schedule**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **LESSON** | **TOPIC** | **ASSIGNMENT** | **Points** | **DUE** |
| 1 | What is Distance Learning? | Wiki #1 | 10 | March 10 |
| Presentation | 20 |  |
| 2 | History & Theories | Brief Paper | 20 | March 24 |
|  |  |
|  |  | Spring Break |  |  |
| 3 | Distance Learners | Discussion #1 | 10 | April 7 |
| Group project | 50 | April 14 |
|  |  |  |  |  |
| 4 | Media Selection | Blog #1 | 10 | April 21 |

### Environmental issues

Environmental issues are harmful effects of human activity on the biophysical environment. Environmental protection is a practice of protecting the natural environment on individual, organizational or governmental levels, for the benefit of both the environment and humans. Environmentalism, a social and environmental movement, addresses environmental issues through advocacy, education and activism.[1]

The carbon dioxide equivalent of greenhouse gases (GHG) in the atmosphere has already exceeded 400 parts per million (NOAA) (with total "long-term" GHG exceeding 455 parts per million) (Intergovernmental Panel on Climate Change Report). This level is considered a tipping point. "The amount of greenhouse gas in the atmosphere is already above the threshold that can potentially cause dangerous climate change. We are already at risk of many areas of pollution...It's not next year or next decade, it's now." The UN Office for the Coordination of Humanitarian Affairs (OCHA) has stated "Climate change is not just a distant future threat. It is the main driver behind rising humanitarian needs and we are seeing its impact. The number of people affected and the damages inflicted by extreme weather has been unprecedented."[2] Further, OCHA has stated:

Climate disasters are on the rise. Around 70 percent of disasters are now climate related – up from around 50 percent from two decades ago.

These disasters take a heavier human toll and come with a higher price tag. In the last decade, 2.4 billion people were affected by climate related disasters, compared to 1.7

billion in the previous decade. The cost of responding to disasters has risen tenfold between 1992 and 2008.

Destructive sudden heavy rains, intense tropical storms, repeated flooding and droughts are likely to increase, as will the vulnerability of local communities in the absence of strong concerted action.[3]

Environment destruction caused by humans is a global problem, and this is a problem that is on going every day. By year 2050, the global human population is expected to grow by 2 billion people, thereby reaching a level of 9.6 billion people (Living Blue Planet 24).[4] The human effects on Earth can be seen in many different ways. A main one is the temperature rise, and according to the report ”Our Changing Climate”, the global warming that has been going on for the past 50 years is primarily due to human activities (Walsh, et al. 20). Since 1895, the U.S. average temperature has increased from 1.3 °F to 1.9 °F, with most of the increase taken place since around year 1970 (Walsh, et al. 20).[5][6]

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# Recycling

Recycling is the process of converting waste materials into new materials and objects. It is an alternative to "conventional" waste disposal that can save material and help lower greenhouse gas emissions (compared to plastic production,[1][2] for example). Recycling can prevent the waste of potentially useful materials and reduce the consumption of fresh raw materials, thereby reducing: energy usage, air pollution (from incineration), and water pollution (from landfilling).

Recycling is a key component of modern waste reduction and is the third component of the "Reduce, Reuse, and Recycle" waste hierarchy.[3][4]

There are some ISO standards related to recycling such as ISO 15270:2008 for plastics waste and ISO 14001:2004 for environmental management control of recycling practice.

Recyclable materials include many kinds of glass, paper, and cardboard, metal, plastic, tires, textiles, and electronics. The composting or other reuse of biodegradable waste—such as food or garden waste—is also considered recycling.[2] Materials to be recycled are either brought to a collection center or picked up from the curbside, then sorted, cleaned, and reprocessed into new materials destined for manufacturing.

In the strictest sense, recycling of a material would produce a fresh supply of the same material—for example, used office paper would be converted into new office paper or used polystyrene foam into new polystyrene. However, this is often difficult or too expensive (compared with producing the same product from raw materials or other sources), so "recycling" of many products or materials involves their reuse in producing different materials (for example, paperboard) instead. Another form of recycling is the salvage of certain materials from complex products, either due to their intrinsic value (such as lead from car batteries, or gold from circuit boards), or due to their hazardous nature (e.g., removal and reuse of mercury from thermometers and thermostats).

# Η οικογένειά μου